Appl. No. 09/915,692
Amdt. sent March 2, 2004
Preliminary Amendment

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1   1.   (Currently amended): An accounting system including a plurality of host

2 computers, an accounting server connected to said plurality of host computers, a storage control

3 device connected to said plurality of host computers and said accounting server and having a

4 plurality of channel ports for performing data input/output operations, and storage devices

5 connected to said storage control device for storing data ~~inputted/outputted to/from~~input to and

6 output from said plurality of host computers, comprising:

7   accounting data generating means for generating accounting data ~~containing at~~

8 ~~least one of~~ comprising a number of times of access and a data transfer quantity for ~~every~~ each of

9 one or more accounting subject control units; and

10   transfer means for informing said accounting server of said accounting data

11 generated by said accounting data generating means.

1   2.   (Original): An accounting system according to Claim 1, wherein each of

2 said accounting subject control units includes at least one of a host computer, a World Wide

3 Name, a channel port, a storage device and an in-storage-device area.

1   3.   (Original): An accounting system according to Claim 1, wherein said

2 storage control device is associated with a service processor and includes transfer means for

3 informing said service processor of said accounting data.

1   4.   (Currently amended): An accounting system according to Claim 3, further

2 comprising:

3   means for setting an upper limit value of said accounting data in said accounting

4 subject control units ~~for each said accounting subjects~~, said means being made to operate from at

5 least one of said accounting server and said service processor.

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1   5.   (Original): An accounting system according to Claim 4, wherein said

2   upper limit value is determined on the basis of a predetermined period which includes, as a unit,

3   at least one of a day, a week, a month, and a year.

1   6.   (Original): An accounting system according to Claim 4, wherein said

2   storage control device includes means which operates so that when a data input/output request

3   issued from one of said host computers is larger than said upper limit value, said means does not

4   accept said data input/output request larger than said upper limit value.

1   7.   (Currently amended): An accounting system according to Claim 4,

2   wherein, to said in an accounting subject control unit in which said upper limit value has not been

3   set yet, meter accounting is made based on at least one of said number of times of access and

4   said data transfer quantity.

1   8.   (Original): An accounting system according to Claim 4, wherein

2   accounting for said accounting subject control unit in which said upper limit value has been set is

3   made based on fixed accounting.

1   9.   (Original): An accounting system according to Claim 7, wherein at least

2   one of said accounting server and said service processor has means for fetching said accounting

3   data of said storage control device every predetermined period, and means for calculating rates

4   on the basis of said accounting data fetched by said fetching means and for performing rate

5   management.

1   10.   (Original): An accounting system according to Claim 1, wherein

2   connection between said storage control device and said host computers is made through serial

3   channels of optical fibers so as to constitute a LAN.

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1   11.   (Currently amended): An accounting system according to Claim [[1]]4,

2   wherein said storage control device has I/O control portions for setting at least said upper limit

3   values and generating accounting data in accordance with said upper limit values, and a shared

4   memory for storing said accounting data.

1   12.   (Currently amended): An accounting method for making accounting for

2   operation of a plurality of host computers in a storage-related accounting system which ~~is~~

3   ~~constituted by~~comprises said plurality of host computers, an accounting server, a storage control

4   device connected at least to said plurality of host computers and to said accounting server for

5   performing data input/output operation through channel ports, and a storage device for storing

6   data processed by said storage control device, said accounting method comprising ~~the~~ steps of:

7   (a) designating accounting subject control units;

8   (b) <u>for at least some of said accounting subject control units,</u> determining an upper

9   limit value for <u>a</u> number of times of access and <u>for</u> an upper limit value for a data transfer

10   quantity, ~~said~~<u>wherein</u> access and data transfer ~~being made by~~occur for each of said accounting

11   subject control units;

12   (c) generating accounting data of said accounting subject control units in

13   accordance with said upper limit values; and

14   (d) recording said accounting data.

1   13.   (Original): An accounting method according to Claim 12, wherein said

2   accounting subject control units include host computers, World Wide Names, channel ports, and

3   storage areas in storage devices.

1   14.   (Original): An accounting method according to Claim 12, wherein said

2   accounting server is associated with a service processor for controlling and supervising said

3   storage control device.

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1   15.   (Original): An accounting method according to Claim 12, wherein, in said

2 step (b), said accounting server makes an upper limit values setting request to said storage

3 control device, and in response to said request, said storage control device determines said upper

4 limit values for said number of times of access and said data transfer quantities.

1   16.   (Original): An accounting method according to Claim 12, wherein said

2 generation of said accounting data stated in said step (c) is made by said storage control device in

3 accordance with said upper limit values.

1   17.   (Original): An accounting method according to Claim 12, wherein, in said

2 step (d), said accounting server makes an accounting data sending request to said storage control

3 device in every predetermined period, and receives said accounting data in said every

4 predetermined period to record said accounting data in a database of said accounting server.